UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8960

Date: July 17, 2009

Ms. Jennifer Harris, P.E.
North Carolina Turnpike Authority
5400 Glenwood Avenue, Suite 400
Raleigh, North Carolina 27612

SUBJECT: Federal Draft Environmental Impact Statement for the Gaston East-West Connector, From I-85 to I-485, Mecklenburg and Gaston Counties, North Carolina; TIP Project No.: U-3321; FHW-E40827-NC; CEQ No.: 20090159

Dear Ms. Harris:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Turnpike Authority (NCTA) and the Federal Highway Administration (FHWA) are proposing to construct an approximate 22-mile, multi-lane, median-divided toll facility from I-85 west of Gastonia to I-485/NC 160 near Charlotte-Douglas Airport in Mecklenburg and Gaston Counties.

The proposed project has been in the NEPA/Section 404 Merger 01 process since 2002 when it was with the North Carolina Department of Transportation (NCDOT) as a freeway. The NCTA reaffirmed several concurrence points with the NEPA/Section 404 Merger 01 process team on October 7, 2008, including Purpose and Need (Concurrence Point – CP 1), Detailed Study Alternatives (DSAs) Carried Forward (CP 2) and Bridging and Alignment Review (CP 2A). EPA provided detailed scoping comments in a letter dated March 1, 2007. NCTA's May 4, 2007, responses to EPA's scoping comments are included in Appendix A to the DEIS.

EPA has attached detailed technical review comments (See Attachment A). EPA's primary environmental concerns regarding Clean Water Act and Clean Air Act provisions remain unresolved.

EPA has rated the twelve (12) DSAs as 'EO-2', Environmental Objections with additional information being requested for the final document. EPA's review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. The basis for our environmental objections include that the proposed action might violate or be inconsistent with achievement or maintenance of a national environmental standard under the Clean Air Act's National Ambient Air Quality Standards (NAAQS), and where applicable standards may not be violated but there is a potential for significant environmental

degradation under the Clean Water Act and Section 404(b)(1) Guidelines. NCTA and FHWA should consider substantial changes to the preferred alternative or consideration of some other project alternatives, including improvements to existing I-85, interim Transportation System Management (TSM) approaches for US 29-74 and connecting roadways and other combinations of transportation improvements. Due to the significance of the unresolved environmental issues, EPA will be unable to concur on the selection of DSA 9 as the Least Environmentally Damaging Practicable Alternative ("LEDPA") at the concurrence point Merger 01 meeting.

Prior to the issuance of a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD), NCTA and FHWA should demonstrate that the new location project will be included in an approved State Implementation Plan (SIP) and will be in conformity with Section 176(c) of the Clean Air Act Amendments for the 8-hour ozone standard. Also, NCTA and FHWA need to further demonstrate avoidance, minimization and compensatory mitigation for the environmental impacts to jurisdictional waters of the U.S. and demonstrate that water quality of Section 303(d) impaired streams is not further degraded as a direct result of this project and its associated indirect and cumulative impacts. Specific environmental commitments to protect air quality and water quality need to be included in the FEIS and ROD.

EPA staff, including Mr. Christopher Militscher and Ms. Kathy Matthews of EPAs' Wetlands Section will continue to work with you and FHWA and other agencies on the continued environmental coordination and Merger 01 process activities for this project. Please feel free to contact Mr. Militscher of my staff at (919) 856-4206 or Ms. Matthews at (919) 541-3062 should you have specific questions concerning EPA's comments.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office

Cc: J. Sullivan, FHWA
K. Jolly, USACE
B. Wrenn, NCDENR-DWQ

Attachment A
DEIS Detailed Review Comments
Gaston East-West Connector Toll Facility
Mecklenburg and Gaston Counties
U-3321

Purpose and Need

EPA has reviewed the proposed project's purpose and need as summarized in Sections 1.2 and 1.3 of the DEIS. The primary needs for the proposed project are: there is poor transportation connectivity between Gaston County and Mecklenburg county and within southern Gaston County; and there are existing and projected poor levels of service (LOS) on the project study area major roadways. The proposed Gaston East-West Connector is also included as a Strategic Highway Corridor (SHC). The typical section is identified as a 4-lane, 70-foot median divided facility with 300 feet of right of way and 12-foot paved outside shoulders.

The DEIS references and includes the May 21, 2007, letter between NCTA and NCDOT regarding the decision by the State transportation agencies to study only toll alternatives in the EIS. EPA does not believe that this is consistent with the Council on Environmental Quality (CEQ) regulations at 40 CFR Section 1502.14(a) and (c). The Gaston East-West Connector's new location corridors and preliminary study alternatives (utilized by NCTA and included in the DEIS) were developed by the NCDOT when it was proposed as a freeway. FHWA, as the Lead Federal Agency (LFA) under NEPA, might have also considered a comparison of a toll facility with a 'freeway' and their resultant environmental impacts.

EPA notes that the Mecklenburg-Union Metropolitan Planning Organization (MUMPO) has identified sections east of the Catawba River for the Gaston East-West Connector in its Draft 2035 Long-Range Transportation Plan (LRTP). MUMPO on its Draft 2035 LRTP Roadway Ranking Priority List assigned rankings of 85, 327, 329 and 330 (out of approximately 340 total projects) for the sections where the Gaston East-West Connector is located in Mecklenburg County. EPA notes the Gaston County Future Land Use Map at Figure 1-11. A description of the 'Green Necklace' is not provided and it is noted that there are potentially substantial land use conflicts associated with this plan (e.g., Potential Industrial/Business Park north of Crowder Mountain State Park).

The DEIS includes detailed information regarding traffic volumes and operations for the project study area's major roadways, including I-85, US 29-74, and US 321. EPA notes that existing level of service (LOS) using 2006 data for I-85 in Table 1-2 shows 4 exits with LOS F, 2 exits with LOS E and 6 exits with LOS D. For US 29-74, under Table 1-3, 2006 LOS includes 2 intersections with LOS F, 3 intersections with LOS E, 7 intersections with LOS D, 8 intersections with LOS C, and 2 intersections with LOS B. For US 321, under Table 1-4, 2006 LOS includes 1 intersection at LOS F, 1 intersection at LOS E, 2 intersections at LOS D, 6 intersections at LOS C, 2 intersections at LOS B, and 1 intersection at LOS A. Table 1-5 also includes 2006 and 2030 existing and projected traffic volumes and LOS for I-485 in Mecklenburg County. The 2006 LOS is C at Exit 4 and the 2006 LOS is LOS A at Exit 9.

The DEIS tables also identify 2006 and 2030 traffic volumes (in Annual Average Daily Traffic- AADT) along the various major roadways as well as their corresponding segments. In nearly all cases, NCTA and FHWA are projecting significant traffic volume increases along I-85, US 29-74, and US 321 in the design year. For example, I-85 and US 29-74 are projected to have between approximately 30-50% increases in AADT by 2030. It is unclear from Section 1.6.2 of the DEIS what assumptions are being made by the planning organizations (GUAMPO and MUMPO) and transportation agencies in estimating future travel demand for these roadways and what development pressure and induced traffic will be added as a result of the new facility. The DEIS cites in several places, that the project study area is mostly suburban and rural in character. EPA notes the estimated population change by U.S. Census block groups from 1990 to 2000 in Figure 3-2. The DEIS also includes information on minority and low-income demographic information which is depicted in Figures 3-3, 3-4 and 3-5. One of EPA's past and continued concerns has been the construction of a toll facility in an area where there are many block groups characterized as minority and low-income (See comment section on "Environmental Justice" below).

Alternatives Considered

The DEIS addresses the first and second screening methods utilized to develop preliminary study alternatives and further identify DSAs. The DEIS identified the public involvement and agency coordination involved with the alternatives screening process. Page 2-4 of the DEIS states: *"Initially, the First Screening focused on the ability to meet Purpose and Need. Several alternatives were eliminated largely or entirely based on their inability to meet the Purpose and Need (TSM, TDM, Mass Transit, Multi-modal)"*. EPA was a concurring agency to carry forward the twelve (12) DSAs. However, the DEIS does not specifically address how a combination of alternatives as referenced above with other transportation improvements to existing major roadways might be able to meet the Purpose and Need. EPA does not agree with the conclusions regarding the mass transit alternative on pages 2-8 and 2-9. NCTA's and FHWA's preferred alternative DSA 9 has an estimated median cost of $1.282 billion. A primary rationale provided in the DEIS for eliminating the mass transit alternative (e.g., Light rail), is the estimated cost of 'at least $1.06 billion' for a 22-mile new location rail system. EPA notes the following key statement regarding mass transit on new location: *"In addition, there is no program currently in place within North Carolina or in Gaston County to fund such improvements"*. The DEIS continues to state that the lack of financial feasibility is an additional reason for finding that this alternative is not a reasonable alternative. EPA requested in its March 1, 2007, letter that combinations of alternatives also be further studied and analyzed in the DEIS. Referring to CEQ regulations 40 CFR Section 1502.14(c), FHWA and NCTA might have considered partnering with the Federal Transit Authority (FTA) to evaluate a combination of alternatives that could potentially meet the project purpose and need. From a public disclosure and analysis standpoint EPA believes that for the eastern portions of the project study area a mass transit alternative is still potentially a 'reasonable' alternative under NEPA in combination with other new location and improve existing options.

The DEIS includes twelve (12) DSAs including alternatives 4, 5, 9, 22, 23, 27, 58, 64, 68, 76, 77, and 81. For all of the DSAs, the indirect and cumulative effects and potential for

accelerated growth and indirect effects in Gaston County are rated 'High' in Table S-2. The NCTA and FHWA have identified DSA 9 as their preferred alternative.

Wetland and Stream Impacts

EPA acknowledges that the FHWA and NCTA's recommended (preferred) alternative is DSA 9 and that it has lower wetland and stream impacts than many of the other alternatives considered (with the exception of DSA 68 and 81 for stream impacts). DSA 9 has 48,995 linear feet of total stream impact with 38,894 linear feet of impact to perennial streams. There is an estimated 20,615 square feet of impact to Catawba River riparian buffers. Jurisdictional wetland impacts are 7.5 acres for DSA 9.
Based upon tracking records that EPA began in 2002, the proposed project would have 2,237.2 linear feet of stream impact per mile of multi-lane new location facility. This is more than double the State-wide average of approximately 1,000 linear feet for a Piedmont or western North Carolina project and potentially the highest impact per mile of any Merger project since 2002. DSA 9 also includes 91 total stream crossings. EPA considers the direct impacts to waters of the U.S. to be very significant.

The DEIS does not fully address EPA's comments from the March 1, 2007, scoping letter concerning the need to fully consider and address the number and associated impacts for free-flowing interchanges and toll collection facilities. EPA requested that full consideration be given to using single point urban interchanges (SPUI) and compressed cloverleaf designs at grade separated locations. The DEIS on page 2-50 discusses the option of removing the intersection at the US 29-74 interchange (depicted on Figures 2-9 d & e) from the project design, but there is no formal conclusion reached on the issue. EPA requested during past Merger meetings that due to the traffic volumes and resources in the area, serious consideration be given to eliminating this interchange. A SPUI or other compressed interchange design might have also reduced stream and wetland impacts at the Robinson Road interchange (Figure 2-9q), Bud Wilson Road interchange (Figure 2-9s), Bradley Trail interchange (Figure 2-9u), NC 273 interchange (Figure 2-9cc) and the I-485 Interchange (Figures 2-9gg, hh and ii).

EPA recognizes the different interchange designs shown in the aforementioned figures. However, the DEIS does not contain a specific discussion or analysis as to the types of interchanges examined. Section 6.4.5.3 under 'Avoidance and Minimization' states that the 'presence of wetlands and streams and minimizing or avoiding impacts to these resources was a factor in considering interchange configurations'. However, there is no detailed discussion as to how important these resources were considered and if SPUIs or other compressed cloverleaf designs were given full consideration. From previous Merger meeting discussions, EPA staff commented that 'high-speed' to 'high-speed' interchange and ramp designs were not necessarily needed at all the potential interchange locations and that 'low-speed' connections at secondary roads should be considered.

The DEIS does not provide details as to how and to what degree the DSAs incorporate measures to avoid and minimize impacts to jurisdictional waters. EPA does recognize the CP 2A bridge field review meeting on avoidance and minimization efforts conducted in December of 2007. EPA technical staff were directly involved in these field investigations. However, direct

impacts to existing 303(d) listed impaired streams and other waters at risk from further degradation have not been fully addressed from the standpoint of avoidance and minimization (e.g., proposed median width of 70 feet, 300-foot minimum right of way, 12-foot paved outside shoulders, etc.).

The DEIS does not address our comments on pages 4 and 5 of our March 1, 2007, scoping letter, recommending that NCTA and FHWS provide a conceptual plan in the DEIS which includes opportunities for on-site mitigation. The preferred alternative has approximately 7.5 acres of jurisdictional wetland impacts and 48,995 linear feet of total stream impact. There is no detail provided in the DEIS if there is adequate on-site or off-site mitigation available in the HUC. Although mitigation is discussed in Section 6.4.5.4, no details are provided. Also in this section, the DEIS includes a short statement about off-site mitigation. The paragraph mentions the Memorandum of Agreement (MOA) between NC Department of Transportation (DOT) and the Ecosystem Enhancement Program (EEP). It is unclear whether NCTA is subject to the DOT/EEP MOA (in which case, it is likely that mitigation plans are already underway for these impacts), or if NCTA will pay into the traditional in-lieu fee program run by EEP under a Memorandum of Understanding (MOU) with NC Department of Natural Resources and the Corps. Under the MOU program, EEP may not have any mitigation planned until after NCTA provides payment, typically after the permit is issued. The FEIS should clearly state which program NCTA will utilize for wetland and stream mitigation. EPA recommends that NCTA identify conceptual on-site mitigation opportunities in the FEIS. The Corps and NCDWQ may require mitigation for all intermittent as well as perennial streams. EPA recommends that NCTA propose compensatory mitigation for all impacts to jurisdictional resources. The lack of a conceptual mitigation plan for impacts to jurisdictional waters of the U.S. is a significant deficiency in this DEIS.

In the March 1, 2007 letter, EPA also requested that FHWA and NCTA explore methods to directly address mitigation for indirect and cumulative effects of the proposed project, including long-term impacts to water quality. The DEIS has no specific discussion of mitigation for indirect and cumulative effects. EPA is concerned that although we specifically identified significant issues with the use of the North Carolina Wetlands Ratings System (WRS) on this project (forested wetlands labeled as emergent wetlands, forested wetlands adjacent to streams receiving a rating of zero from at least one of the consultant teams), NCTA continues to rely on the WRS scores to describe the wetlands that may be impacted. NCTA should complete a North Carolina Wetland Assessment Method (NCWAM) assessment on all wetland impact sites for the recommended alternative and present the information in the FEIS. EPA does not believe that the WRS provides meaningful information for wetlands permitting decisions. In Section 6 of the DEIS, there is a discussion concerning the soils within the project area and states that the entire area underlain by the project is rated moderate or severe for road construction, and may require "special planning, design or maintenance to overcome soil limitations." However, EPA could find no discussion regarding the need for potential borrow sites, and the potential impacts to uplands, wetlands, and streams from these borrow pits. If borrow sites will be necessary, the FEIS should fully explore the amount of borrow needed and potential impacts (quantitative) to natural areas, including terrestrial areas, wetlands, and streams.

Portions of Abernethy Creek, Crowders Creek, McGill Branch, Catawba Creek, and South Fork Catawba River within the project area are on the 303(d) list of impaired waters, due to aquatic life impairments resulting from urban runoff, and storm sewers. Some of the possible causes include non-point sources of pollutants such as sediment from construction sites, stormwater runoff from farms and residential areas, faulty septic tanks, etc. Section 6.2.2.4 of the DEIs lists other possible sources of pollution. NCTA's proposed road construction is a type of activity that is shown to be causing or contributing to the impairment of these receiving waters. Considering the magnitude of the direct impacts, there is the potential that NCTA's activities will cause or contribute to the continued degradation of these waterbodies, or prevent them from being restored, contrary to the Clean Water Act. The DEIS provides no information on specific actions that NCTA will take to avoid and minimize impacts (direct and indirect) to 303(d) listed impaired streams. Local ordinances, riparian buffer rules and implementation of past stormwater control initiatives have not proven to be successful in addressing these continued developmental impacts. Moreover, the recommended alternative will directly impact approximately 7.5 acres of jurisdictional wetlands and 48,995 linear feet (approximately 9.3 miles) of streams. Riparian buffers are not specifically protected in many parts of the project study area. NCTA should commit to provide adequate methods of storm water treatment to remove pollutants and sediment, during construction and afterward. While there is a commitment to adhere to typical NCDOT Best Management Practices (BMPs) and requirements of the North Carolina Department of Environment and Natural Resources Division of Land Resources, EPA believes that efforts greater than the typical BMP requirements may be necessary. EPA believes that typical sediment and erosion control and stormwater management controls and Best Management Practices (BMPs) in the Piedmont have not shown to be very effective based upon NCDOT studies commissioned with the North Carolina State University's Department of Biological and Agricultural Engineering (i.e., Dr. Daniel E. Line). Erosion rates from one NCDOT Piedmont project using BMPs still showed off-site erosion rates to receiving waters during construction of 18.5 tons per year over three years. NCTA and FHWA should commit to providing the most aggressive methods of sediment and erosion control and stormwater treatment to remove pollutants and sediment, during construction and afterwards.

Specifically, NCTA and FHWA should at a minimum make environmental commitments to provide methods such as wet ponds, created stormwater wetlands, infiltration trenches and wells, sand filters, temporary and permanent retention ponds, level spreaders, retaining walls to reduce fill impacts from steep slopes, and reinforced grassed-swales. During construction, NCTA and FHWA should also restrict clearing and grubbing to the maximum extent possible. More effective soil erosion and turbidity control measures researched by NCDOT and NCSU including Polyacrylamide (PAM), coconut fiber logs, and absorbent wattles should be incorporated into the soil and erosion control plan and included as an environmental commitment (Note: these more costly measures have been shown to drastically reduce turbidity and sedimentation during construction). Permanent stormwater measures (including detention basins/hazardous spill catch basins) should be planned and designed within the proposed facility's right of way to address future development runoff and hydrologic trespass from off-site sources such as residential and commercial developments, toll collection facilities, and parking lots. NCTA and FHWA should consider the use of hazardous spill catch basins/stormwater basins at key locations, including 303(d) listed streams that are already impaired from urban runoff and pollutants. EPA, as well as other agencies, previously requested that FHWA and

NCTA explore methods to directly address mitigation for indirect and cumulative effects of the proposed project, including long-term impacts to water quality. FHWA and NCTA are not proposing any mitigation for indirect and cumulative impacts to water quality. According to the Summary of Potential Indirect Impacts (Table S-2), Gaston County is expected to have "High" potential for accelerated growth as a result of the project. Furthermore, this table also cites that the potential effects on water quality, wetlands, impaired waterways, and watersheds as a result of the accelerated growth are "Strong" to "Very Strong."

In the March 1, 2007, scoping letter, EPA also requested that FHWA and NCTA perform a quantitative Indirect and Cumulative Impacts (ICI) analysis for this proposed project. The DEIS does state (i.e., page 7-2) that a quantitative assessment would be conducted on the preferred alternative following the DEIS, if FHWA and NCTA determine that a quantitative analysis is needed. However, the ICI in the DEIS is only qualitative, and does not provide meaningful information concerning potential impacts to wetlands, streams, water quality, air quality, and endangered species. The Indirect and Cumulative Effects Section (Section 7) of the DEIS is not specific, and provides no quantitative data to characterize the existing conditions in the project area (such as percent land use by commercial, agriculture, etc.). There are no quantitative data presented in the DEIS concerning potential indirect and cumulative impacts to wetlands, streams, water quality, and wildlife habitat. In general, the indirect and cumulative effects to water quality are not adequately addressed by the DEIS. Section 6.2.4 (page 6.9) states that indirect and cumulative effects to water quality are discussed in Section 7.5. However, Section 7.5 (page 7-13) states that indirect and cumulative effects are discussed in Section 6.2.4. Neither section fully or adequately addresses the issue. The ICI simply states that cumulative effects can be minimized through implementation of local stormwater ordinances and BMPs. However, local ordinances and implementation of stormwater control initiatives in the past have not proven to be successful in addressing these continued development conditions. EPA continues to recommend that the NCTA develop a quantitative analysis of the indirect and cumulative impacts from the proposed project and recommend appropriate avoidance, minimization and mitigation measures for the anticipated impacts.

The FEIS should include more quantitative data on existing conditions and potential impacts to wetlands, streams, water quality, and wildlife habitat from the 'No Build Alternative' and the Preferred Alternative. Existing land use may be estimated using the NWI data or other GIS wetland data and the USGS's North Carolina GAP Analysis Project's land use coverage map. There are also many useful GIS data layers at NC One Map. The FEIS should calculate the acreage of induced growth from the Preferred Alternative, using the No Build as a baseline. The FEIS should also calculate the cumulative amount of potential impervious surfaces added and cumulative increase in percent impervious surface for each watershed resulting from the project and other reasonably foreseeable activities. For instance, the FEIS developed for the I-73 project (TIP I-4923) utilized NRCS's *Urban Hydrology for Small Watershed Basins: 1975* to determine the percent of impervious surfaces for land use type. This FEIS then multiplied the predicted acreage of a type of development (residential, commercial, etc.) by the corresponding percentage (e.g. 85% for commercial development, 72% for industrial development, etc.). Likewise, land use models and available GIS information on wetlands and streams in the project area could be used to develop predictions of indirect and cumulative impacts to wetlands and streams in the watershed.

At a minimum, the FEIS should list known areas of impacts (recent and future TIP projects with projected impacts and other permitted or planned activities) along with the estimated amounts and a total estimated impact for each watershed. Further, the water quality impacts could also be estimated using the FHWA's "Constituents of Highway Runoff" to estimate the amount of pollutant that would enter streams after a twenty–day buildup period, assuming there were no structures such as retention basins or ditches to filter sediment. It is understood that storm water requirements must be met, and that avoidance and minimization efforts may reduce the amount of estimated wetland and stream impacts. It is also understood that the quantitative information is an estimate, and may provide a worst-case scenario. However, the FEIS should provide as much quantitative information as possible.

Air Quality Impacts

EPA notes the special project commitment ("Green Sheet") regarding air quality and that NCTA will coordinate with GAUMPO and MUMPO to ensure that the air quality conformity determination for the region includes the project's design concept and scope consistent with the 'preferred alternative' prior to the Record of Decision (ROD).

EPA believes that vehicle miles traveled (VMTs) will substantially increase from the proposed action, particularly in the Gaston County area. EPA further concurs with NCTA and FHWA that the proposed action will significantly induce {"accelerate"} development within the project study area. Increased development further from Charlotte and other more urbanized areas will invariably increase vehicle commutation distances and result in increased air pollution emissions. Any congestion management relief along I-85 and other east-west routes will be potentially offset by increased 'development sprawl', greater VMTs in the project study area and, ultimately, increased air pollution emissions.

Please refer to Appendix A-8 of the DEIS, which includes EPA's letters of November 17, 2008, and January 9, 2009, on the State Implementation Plan (SIP). We wish to emphasize that EPA issued a Final Rule in the Federal Register on May 8, 2009, for the 'Finding of Failure to Submit State Implementation Plans Required for the 1997 8-Hour Ozone National Ambient Air Quality Standard: North Carolina and South Carolina.

The DEIS states that the Charlotte-Gastonia-Rock Hill air quality region was designated as a 'moderate non-attainment' area on June 15, 2004, for the 1997 8-hour ozone standard. Based upon recent monitoring data, 2007 and 2008 8-hour ozone concentrations averaged approximately 84 micrograms per cubic meter (ug/m^3). In order to retain the moderate non-attainment status and not be reclassified by EPA as 'serious non-attainment', 2009 monitoring data for the 8-hour ozone standard would have to be 65 ug/m3. While still early in the '2009 ozone season', the North Carolina Division of Air Quality (NCDAQ) has already issued several Code Orange ozone alerts for the Charlotte and Piedmont areas as of June 4, 2009. From a CAA perspective, a 'maintenance area for attainment' means that the urban area has exceeded NAAQS levels for one or more pollutants in the past. The 1997 8-hour average ozone standard and the 2008 8-hour average ozone standard are 0.08 and 0.075 parts per million, respectively.

Section 4.4.4 of the DEIS outlines substantial information on transportation conformity, regional conformity analysis, project-level ("hot-spot") conformity analysis, conformity determinations for LRTPs and TIPs, potential for conformity lapse grace period, potential for a conformity lapse, implications for the Gaston East-West Connector project, status of the SIP for the 'Metrolina' Region, and the status of the SIP. EPA concurs with most of the information and analysis in this section of the DEIS. The next update for the GUAMPO LRTP is June 30, 2009 and for the MUMPO LRTP it must be approved by May 3, 2009.

Referring to EPA's previous letters on the SIP and transportation conformity, EPA believes that it is highly improbable that the Charlotte area will be able to retain its moderate non-attainment status for the 8-hour ozone that is required by June 15, 2010. One of the primary reasons for the 'Environmental Objections' rating for the preferred DSA D alternative is where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard. Under EPA's policy and procedures under Section 309 of the CAA and NEPA, the threshold for rating the environmental impact of the proposed action is based not only on the potential or likelihood to violate a national environmental standard, but also on the proposed mitigation for the project and if that mitigation is adequate to address the potential and significant environmental impacts. NCTA and FHWA did not propose any air quality related mitigation to address the potential direct impact from this 22-mile, new location toll facility or its indirect and cumulative effects. Until the issues involving the SIP, LRTP update, TIP and conformity demonstration are fully resolved, EPA believes that this new location project will continue the pattern of development sprawl in the Charlotte/Metrolina area and further result in air quality degradation and future potential violations of the CAA's 8-hour ozone standard. EPA concurs with NCTA and FHWA that this new location facility will most likely induce development in the project study area. However, EPA does not agree with NCTA and FHWA conclusion that this induced development will not ultimately result in an increase of the VMTs due to the construction of the new location roadway. Our environmental objection rating includes other new location alternatives (DSAs) as well.

Mobile Source Air Toxics (MSATs)

EPA has reviewed the Mobile Source Air Toxics (MSATs) sections contained at 4.2.3, and Appendix H. EPA acknowledges that a more detailed qualitative analysis was provided in the DEIS. The DEIS states that there is an approximate 12% increase (for Gaston County) in VMTs for the new location alternatives versus the 'No Build Alternative'. However, EPA does not concur with the general regional assessment provided in Section 4.2.3 or Appendix H. EPA does concur with the statement provided on Page H-8 of the DEIS: "*In summary, under all DSAs in the design year, it is expected that there will be higher MSAT emissions in the immediate project area, relative to the No Build Alternative, due to increased VMT.*" EPA's recent technical comments concerning MSATs for the Monroe Bypass/Connector project apply to this project as well. The qualitative analysis provided in the DEIS considers MSATs to be a regional air quality issue and does not address the specific environmental concerns for potential near-roadway exposures to increases in MSATs.

The DEIS does not identify any 'local control measures' for MSATs in the project study area. FHWA has asserted that MSATs cannot be accurately modeled and the health effects

accurately predicted. EPA requests that FHWA provide the identification of 'local control measures' and how these measures could be assessed against 'uncertain health effects'. Again, please refer to EPA's letter dated June 15, 2009, concerning MSATs and the specific measures to reduce emissions during construction and for the final project design

The DEIS does identify 4 public schools (Section 2.3.1.4 and Figure 3-7a-b) located near the boundaries of the DSA corridors and no other potential sensitive receptors. Considering the 10,000 to 61,800 AADTs on the new facility and that this is potentially a 'new emission source', the development of a finite period monitoring program would not be inconsistent with other past FHWA actions regarding MSATs. Furthermore, direct data collection by FHWA would address some of the 'uncertainty' that it has expressed in the modeling and baseline estimates for MSATs. There are numerous more recent, peer-reviewed and published health studies and the correlation with near roadway exposures to MSATs that have not been considered or cited in the DEIS. EPA recently provided examples of several local control measures for the Monroe Bypass/Connector project that are applicable for this proposed project as well.

Environmental Justice (EJ)

Section 3.2.5.1 includes the primary issues of EJ under Executive Order 12898. Section 3.2.5.2 of the DEIS includes a discussion on EJ as it relates to the proposed project, including public involvement and outreach conducted by NCTA and FHWA. Table 3-7 provides a general evaluation for the proposed toll facility. EPA does not fully concur with this assessment provided on Pages 3-25 to 3-28. The minority and low-income communities in the project study area would receive the 'higher percent' of impact from the new facility in terms of air quality and noise impacts, but would not necessarily receive a proportionate benefit of access due to the potential toll costs. This evaluation generally considered direct relocation impacts to minority and low-income neighborhoods and did not fully consider the long-term air quality and noise impacts. Using existing I-85 and other routes does not address the issue that minority and low-income persons would have to drive further and at greater cost than persons who would have access to the new toll facility. DSA 9, the preferred alternative, also has one of the highest percentages of minority relocations of all of the DSAs (26-28 % of the total number of residential relocations).

Noise

Section 4.1 of the DEIS contains detailed information regarding potential noise receptor impacts. For DSA 9, there are an estimated 245 total number of impacted receptors using FHWA Noise Abatement Criteria. FHWA and NCTA are proposing 12 'feasible and reasonable' noise barriers that are 20,562 linear feet in total length that benefit approximately 169 impacted receptors for DSA 9. NCTA and FHWA are not proposing any other forms of potential noise abatement measures within the project study area such as different pavement types, reduced speed limits, earthen berms, or vegetative screens.

Prime Farmlands and Agricultural Lands

Section 4.3.4 of the DEIS describes Farmland Impacts. It should be noted that North Carolina lost more than 600,000 acres of farmland from 2002-2007 according to a recent census by the U.S. Census of Agriculture. Also in this period, North Carolina lost approximately 1,000 individual farms. A more recent U.S. Department of Agriculture report in 2007 showed that North Carolina lost 1,000 farms in 2006 alone, making it the state with the largest loss of farms in the U.S. These trends are expected to continue as North Carolina continues to promote roadway infrastructure, development and urbanization further from metropolitan center districts. Past State and Federal initiatives to minimize farmland losses appear to be having little effect on these alarming trends.

None of the farmlands impacted for the DSAs are considered to meet the Land Evaluation Site Assessment (LESA) criteria under Title 7, CFR Part 658 as being Prime, Unique or of Statewide importance. However, there are approximately 1,109 acres comprising 21 parcels in Gaston County and within the DSA corridors currently participating in local Voluntary Agricultural District (VAD) programs. This program (NCGS Chapter 106, Sections 735-743) authorizes counties to undertake a series of programs to encourage the preservation of qualifying farmland and to foster growth, development and sustainability of family farms. Figure 4-3 depicts the parcels participating in this farmland preservation program and the corresponding locations within the DSAs. Table 4-11 provides impacts to VAD properties and DSA 9 would potentially impact 449.1 acres and 10 properties that are participating in the farmland preservation program. The statement concerning Gaston County planning staff and future land use (i.e., greater suburban development) appears to be inconsistent with the intent of NC General Statute for VADs. EPA also does not concur with the 'relocation assessment' for active farms that will need to be relocated and that there is 'suitable replacement property' available. The DEIS does not offer any potential avoidance and minimization measures (e.g., reduced right of way, keeping to property boundaries, providing access to dissected fields, etc.) to potentially reduce impacts to farmlands.

Other Human and Natural Environment Direct Impacts

The DEIS identifies other human and natural environment impacts for the DSA 9 preferred alternative as well as other DSAs in Table S-2, including 348 residential relocations, 37 business relocations, 18 named neighborhoods impacted, 3 churches impacted, 1 public park, 24 hazardous material sites, 13 floodplain crossings, 2 historic resources with No Adverse Effects, 177 acres in agricultural lands, and 882 acres of terrestrial forests. Potential impacts to archeological sites are considered to be 'Moderate', but final surveys have not been conducted. Due to the rural nature of a substantial portion of the project study area and the significant impacts to terrestrial forests, the EPA believes that wildlife habitat fragmentation is a potentially significant issue, including safety concerns. EPA believes that further consultation with FWS and WRC is needed to identify wildlife crossings and other minimization measures involving large mammals such as deer, and a new, high-speed, multi-lane facility. EPA notes the comments on page 6-18 of the DEIS concerning the feasibility and design of the wildlife passage at Stream S156.

NCTA and FHWA estimate the probable range of total project costs at $1.18 to $1.4 billion with a median total project cost of $1.28 billion for DSA 9.

Indirect and Cumulative Effects

In general, the Indirect and Cumulative Effects (ICE - Section 7) is not specific, and provides no quantitative data to characterize the existing conditions in the project area (such as percent land use by commercial, agriculture, etc.). There are no quantitative data concerning potential impacts to wetlands, streams, water quality, and habitat. Section 7 of the DEIS only provides qualitative statements, and in some cases, subjective conclusions. The DEIS assumes that growth will continue in the corridor regardless of the construction new location roadway, and that the existing local and state requirements will minimize impacts. However, no data is provided to support these conclusions. For this proposed toll facility, the ICE is broken up into 'Districts'. EPA does not concur with numerous subjective statements concerning future development and growth 'without' the proposed project. Interchange locations as identified on pages 7-14 and 7-15 are very likely to develop in the future – but only with the new roadway.

DEIS Figure 7-2 and page 7-12 of the ICI demonstrates the expected travel 'time savings' from the project. More than half of the project area shows little if any (0-5 minutes) 'time savings' in travel from the proposed project. The greatest area of travel time improvement is along the project in the southeast corner of Gaston County, and south to York County. There appears to be little to no change for most of Gaston County and project study area. However, Table 7-2 on page 7-20, which indicates a "High Potential for Project to Improve Mobility, Access, and Connectivity" in both Gaston and Mecklenburg portions of the ICE study area, which is inconsistent with the fact that more than half of Gaston County's portion of the study area is shown with little to no 'time savings', and all of Mecklenburg County's portion of the study area is shown with little to no time savings (Figure 7-2).

The FEIS should include more quantitative data on existing conditions and potential impacts to wetlands, streams, water quality, and habitat from the No Build Alternative and the Preferred Alternative. For example, existing land use may be estimated using the NWI data or other GIS wetland data and the USGS's North Carolina GAP Analysis Project's land use coverage map. There are also many useful GIS data layers at NC One Map. The FEIS should calculate the acreage of induced growth from the Preferred Alternative, using the No Build as a baseline. The FEIS should also calculate the cumulative amount of potential impervious surfaces added and cumulative increases in percent impervious surface for each watershed from the proposed project and other reasonably foreseeable activities. For instance, the FEIS developed for the I-73 project (TIP I-4923) utilized NRCS's *Urban Hydrology for Small Watershed Basins: 1975* to determine the percent of impervious surfaces for land use type. This FEIS then multiplied the predicted acreage of a type of development (residential, commercial, etc.) by the corresponding percentage (e.g. 85% for commercial development, 72% for industrial development, etc.). Likewise, land use models and available GIS information on wetlands and streams in the project area could be used to develop predictions of indirect and cumulative impacts to wetlands and streams in the watershed.

At a minimum, the FEIS should list known areas of impacts (recent and future TIP projects with projected impacts and other permitted or planned activities) along with the estimated amounts and a total estimated impact for each watershed. Further, the water quality impacts could be estimated using the FHWA's "Constituents of Highway Runoff" to estimate the amount of pollutant that would enter streams after a twenty–day buildup period, assuming there were no structures such as retention basins or ditches to filter sediment. It is understood that storm water requirements must be met, and that avoidance and minimization efforts may reduce the amount of estimated wetland and stream impacts. It is also understood that the quantitative information is an estimate, and may provide a worst-case scenario. However, the FEIS should provide as much quantitative information as possible and EPA is requesting a more 'quantitative' indirect and cumulative impact assessment for the preferred DSA 9 alignment for all the 'Districts'.

DEIS Format

EPA notes that the DEIS is divided into twelve (12) sections. There is a recommended format for environmental impact statements specified at Title 40 of the Code of Federal Regulations Section 1502.10. EPA recommends that the FEIS for this proposed toll facility be presented in the recommended format contained in the CEQ regulations. Subsections under the basic chapter headings might be used as appropriate.

References:

FHWA, 1981. FHWA/RD-81/042: Constituents of Highway Runoff. Washington D.C., 1981
USDA-NRCS Soil Conservation Service Engineering Division. Urban Hydrology for Small Watershed Basins, Technical Release No. 55. January 1, 1975.
USFWS, National Wetland Inventory, Wetlands Digital Data.
USGS, North Carolina GAP Analysis Project, Land Use Coverage Map.